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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/271,259 | 03/17/1999 | TAKAFUMI NOGUCHI | 2091-0189P | 3867 |

7590 02/13/2004

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| EXAMINER |
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VU, NGOC YEN T

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| ART UNIT | PAPER NUMBER |
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2612

DATE MAILED: 02/13/2004

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/271,259

Applicant(s)

NOGUCHI, TAKAFUMI

Examiner

Ngoc-Yen T. Vu

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-9,12-17 and 20 is/are rejected.
- 7) ☒ Claim(s) 2,4,10,11,18,19 and 21-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/22/2004 has been entered.

Response to Amendment

2. The amendments, filed 10/30/2003, have been entered and made of record. Claims 1-24 are pending.

Response to Arguments

3. Applicant's arguments, see paper 9, filed 10/30/2003, with respect to the rejection(s) of claim(s) 1, 3, 5 and 13 under Kawai '143 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kouzaki (US #5,999,279) in view of Eschbach (US #5,450,217).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 5-7, 12-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kouzaki et al. (US #5,999,279) in view of Eschbach et al. (US #5,450,217).

Regarding claim 1, Kouzaki '279 teaches a method for adjusting image brightness comprising the steps of:

effecting a computation on color image data represented by a color signal composed of at least three components (Fig. 4, RGB), to obtain pixel lightness (V) components and an average brightness of an image; and adjusting brightness of an image represented by the color image data based on the lightness components; and adjusting the brightness of the image represented by the color image data based on the average brightness of the image (col. 7 line 16 – col. 8 line 34; col. 10 lines 17–65; col. 11 line 29 – col. 12 line 26).

Claim 1 differs from Kouzaki in that the claim further requires that the average brightness of the image is adjusted with color saturation components of the pixels. However, the limitation is well known in the art as taught in Eschbach. In the same field of endeavor, Eschbach '217 teaches a method and apparatus for image-dependent color correction wherein an input image is converted to a luminance-hue-saturation color space (HSV) where S has a strong correlation to perceived saturation (col. 2 line 54 – col. 3 line 40). For the purpose of reducing sensitivity to image noise while maintain the local luminance of an output image, Eschbach further teaches that the average brightness of the image is adjusted with color saturation components of the pixels (Fig. 3, col. 5 line 12 – col. 7 line 12). In light of the teaching from Eschbach, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust

average brightness taught in Kouzaki with color saturation components of the pixels so as to eliminate major image noise sources while maintaining local luminance of the output image.

Regarding claim 3, Kouzaki '279 teaches a system (Figs. 4-6) for adjusting image brightness comprising an adjuster (Fig. 4, image signal processing unit 120) having an adjustment unit configured for effecting a computation on color image data represented by a color signal composed of at least three components (RGB) to obtain pixel lightness components and an average brightness of an image and adjusting brightness of an image represented by the color image data based on the lightness (V) components, the system being characterized in that the adjustment unit is further configured for adjusting the brightness of the image represented by the color image data based the average brightness of the image (col. 7 line 16 – col. 8 line 34; col. 10 lines 17–65; col. 11 line 29 – col. 12 line 26).

Claim 3 differs from Kouzaki in that the claim further requires that the average brightness of the image is adjusted with color saturation components of the pixels. However, the limitation is well known in the art as taught in Eschbach. In the same field of endeavor, Eschbach '217 teaches a method and apparatus for image-dependent color correction wherein an input image is converted to a luminance-hue-saturation color space (HSV) where S has a strong correlation to perceived saturation (col. 2 line 54 – col. 3 line 40). For the purpose of reducing sensitivity to image noise while maintain the local luminance of an output image, Eschbach further teaches that the average brightness of the image is adjusted with color saturation components of the pixels (Fig. 3, col. 5 line 12 – col. 7 line 12). In light of the teaching from Eschbach, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust

average brightness taught in Kouzaki with color saturation components of the pixels so as to eliminate major image noise sources while maintaining local luminance of the output image.

Regarding claim 5, Kouzaki '279 teaches a device for adjusting brightness of an image, comprising a data acquisition unit (image reading unit 10; col. 3 lines 1-30) configured to acquire image data of the image; and an adjustment unit (Fig. 4, image signal processing unit 120) configured to adjust a brightness of the image based on an average brightness of the image (col. 7 line 16 – col. 8 line 34; col. 10 lines 17–65; col. 11 line 29 – col. 12 line 26).

Claim 5 differs from Kouzaki in that the claim further requires that the average brightness of the image is adjusted with a color saturation of the image data from said acquisition unit. However, the limitation is well known in the art as taught in Eschbach. In the same field of endeavor, Eschbach '217 teaches a method and apparatus for image-dependent color correction wherein an input image is converted to a luminance-hue-saturation color space (HSV) where S has a strong correlation to perceived saturation (col. 2 line 54 – col. 3 line 40). For the purpose of reducing sensitivity to image noise while maintain the local luminance of an output image, Eschbach further teaches that the average brightness of the image is adjusted with color saturation components of the pixels (Fig. 3, col. 5 line 12 – col. 7 line 12). In light of the teaching from Eschbach, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust average brightness taught in Kouzaki with color saturation components of the pixels so as to eliminate major image noise sources while maintaining local luminance of the output image.

As to claim 6, Kouzaki, as modified by Eschbach, teaches that the adjustment unit comprises a lightness computing unit configured to compute lightness of the image data

(Kouzaki, Figs. 4 & 6, region discriminator 56) (Eschbach, Fig. 3, color space transform 100); a color saturation computing unit (Eschbach, Fig. 3, average saturation calculator 102) configured to compute color saturation of the image data; a mean value computing unit configured to compute mean values of the lightness computed by the lightness computing unit based on the color saturation computed by the color saturation unit (Kouzaki, col. 7 line 16 – col. 8 line 34; col. 10 lines 17–65; col. 11 line 29 – col. 12 line 26) (Eschbach, col. 5 line 12 – col. 7 line 12); and a converting unit configured to convert the brightness of the image data based on the mean values computed by the mean value computing unit (Kouzaki, Fig. 4, color balance unit 60) (Eschbach, Fig. 4, multiplier 208).

As to claim 7, Kouzaki, as modified by Eschbach, teaches the lightness computing unit is configured to compute the lightness of the image data on individual pixel basis (Kouzaki, col. 7 line 16 – col. 8 line 34; col. 10 lines 17–65; col. 11 line 29 – col. 12 line 26); the color saturation computing unit is configured to compute color saturations of the individual pixels (Eschbach, col. 5 line 12 – col. 7 line 12); and a converting unit configured to convert the brightness of the image data on individual pixel basis (Kouzaki, Fig. 4, color balance unit 60) (Eschbach, Fig. 4, multiplier 208).

As to claim 12, Kouzaki, as modified by Eschbach, teaches that the mean values computing unit is configured to determine mean values on the basis of at least one of whole image, a center portion of the image, and one or more specific regions of the image (Kouzaki, col. 7 line 16 – col. 8 line 34; col. 10 lines 17–65; col. 11 line 29 – col. 12 line 26)

Regarding claim 13, the subject matter in claim 13 can be found in claim 5.

As to claim 14, the subject matter in claim 13 can be found in claim 6.

Art Unit: 2612

As to claim 15, the subject matter in claim 13 can be found in claim 7.

As to claim 20, the subject matter in claim 13 can be found in claim 12.

5. Claims 8-9 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kouzaki '279 in view of Eschbach '217, as applied to claims 5-6 above, and further in view of the Applicant's Admitted Prior Art.

As to claims 8-9 and 16-17, the claims differ from Kouzaki and Eschbach in that they further requires that the converting is configured to achieve a predetermined brightness reflectance value, which is substantially 18%. As disclosed in the Applicant's disclosure on page 2, it is well known in the art to adjust the mean brightness to be 18% reflectance, wherein Kouzaki teaches the image data that have been subjected to shading corrections are reflectance data (col. 5, lines 22-34), it would have been obvious to one of ordinary skill in the art at the time the invention was made to achieve a predetermined brightness reflectance value of 18% so as to provide natural reproduced images

Allowable Subject Matter


6. Claims 2, 4, 10-11, 18-19 and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc-Yen T. Vu whose telephone number is 703-305-4946. The examiner can normally be reached on Mon. – Fri. from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R. Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


NGOC-YEN VU
PRIMARY EXAMINER
Art Unit 2612

NYV
02/08/2004